

Discussion Papers  
Department of Economics  
University of Copenhagen

No. 12-05

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ISSN: 1601-2461 (E)

# Give and Take in Dictator Games\*

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July 6, 2012

## Abstract

It has been shown that participants in the dictator game are less willing to give money to the other participant when their choice set also includes the option to take money. We examine whether this effect is due to the choice set providing a signal about entitlements in a setting where entitlements initially may be considered unclear. We find that the share of positive transfers depends on the choice set even when there is no uncertainty about entitlements, and that this choice-set effect is robust across a heterogeneous group of participants recruited from the general adult population in Denmark. The findings are consistent with dictator giving partly being motivated by a desire to signal that one is not entirely selfish or by a desire to follow a social norm that is choice-set dependent.

**JEL Classification Numbers:** C91, D63.

**Keywords:** Dictator game, choice set, social preferences, experiments.

## 1 Introduction

It is of great importance to understand what motivates distributive behavior, and the dictator game has been an important workhorse for research in this field. Recent studies (List, 2007; Bardsley, 2008), however, show that a dictator's choice set matters in a manner that cannot easily be explained by standard distributional preference models (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Cappelen, Drange Hole, Sørensen, and Tungodden, 2007). In particular, it is shown that extending the choice set so that dictators also can take money from the recipient dramatically lowers the fraction of dictators giving away a positive amount. This choice-set effect is hard to reconcile with dictators being exclusively motivated by distributional concerns. In this paper, we address the question of *why* the choice set matters in this way.

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\*We thank Tobias Christiani for programming support and Eva Gregersen, Nikolaos Korfiatis, Thomas A. Stephens, and Erik Wengström for effective research assistance. The project was financed by support from the Carlsberg Foundation and the Research Council of Norway, research grant 202484.

One possible explanation is that the choice set provides a signal about entitlements in a setting where entitlements initially may be considered unclear.<sup>1</sup> A standard dictator game is an artificial situation for most participants, where the dictator may be unsure about the extent to which she can think of the overall endowment, which is “manna from heaven”, as her own money. In such a context, one can envision that when the dictator is given a choice set that allows her to take money from the other participant, this may strengthen the dictator’s feeling that she is entitled to the overall endowment. To illustrate, a dictator only facing the option of giving money to the other participant may consider her equally entitled to the endowment and, consequently, may end up sharing equally, whereas the same dictator also having the option to take money away from the other participant may perceive this as a signal that she is entitled to the overall endowment and, consequently, may end up taking everything. This entitlement mechanism could potentially explain the role of the choice set observed in List (2007) and Bardsley (2008).

To test this mechanism, we designed a dictator game experiment with four treatments differing along two dimensions: the dictator faced either a give or take choice set and the entitlements were established either through experimental instructions only or by including a production phase. This design allows us to compare the effect of extending the choice set in the standard dictator game and in a dictator game with explicit entitlements created through a production phase, where a premise for the analysis is that the production phase removes any uncertainty about entitlements.

We find that the effect of introducing a take option is equally strong in a dictator game with explicit entitlements as it is in the standard dictator game, in which there might be uncertainty about the entitlements. In both cases, the share of dictators transferring a positive amount falls from about 75% in the give treatment to about 35% in the take treatment. This result calls for alternative explanations of why the share of positive transfers drops dramatically when the choice set is extended.

The present experiment also provides a test of the robustness of the results presented in List (2007) and Bardsley (2008). They conducted laboratory experiments using student samples, which raises the question of whether the results would carry over to a more general sample and to an environment without the experimenter’s visible presence. The present experiment was conducted via the internet and the participants were recruited from the general adult population in Denmark, thus representing a less intrusive environment than the classical lab setting and including a more heterogeneous group than a standard student sample. We show that the main result in List (2007) and Bardsley (2008) indeed carries over to this environment, and that the choice-set effect is strong in all subgroups in our sample.

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<sup>1</sup>More generally, recent research has shown that entitlements are crucial in determining dictator giving behavior (Konow, 2000; Cherry, Frykblom, and Shogren, 2002; Cappelen et al., 2007; Almås, Cappelen, Sørensen, and Tungodden, 2010; Cappelen, Konow, Sørensen, and Tungodden, forthcoming).

## 2 Design and sample

We implemented four dictator game treatments in a between-subjects design. Two of the treatments, Give and Take, were replications of the Baseline and Take (\$5) treatments in List (2007), respectively. Each subject was told that she was matched with another participant and that they had received 300 DKK ( $\approx 50\$$ ) in total. Furthermore, they were told that the dictator was tentatively allocated 200 DKK and that the recipient was tentatively allocated 100 DKK.<sup>2</sup> The two treatments differed only in the dictator's choice set. In Give, the dictator could transfer any amount  $\tau^{Give} = \{0, 10, \dots, 100\}$  from his tentative allocation to the recipient; in Take, the dictator could also take some or all of the recipient's tentative allocation, i.e. the dictator could transfer any amount  $\tau^{Take} = \{-100, -90, \dots, 100\}$ .

The two additional treatments, Work-Give and Work-Take, were identical to Give and Take in the distribution phase, only differing in including a production phase that preceded the distribution phase. In the production phase each subject had to count orange-colored cells in a  $10 \times 10$  grid and earned 150 DKK if she submitted 12 correct answers within five minutes. The total earnings in the production phase constituted then the endowment to be distributed in the distribution phase. The key feature of Work-Give and Work-Take was that the subjects earned exactly the same amount of money for the same amount of work, which should remove any uncertainty about them having equal entitlements to the total earnings in the distribution phase.<sup>3</sup> In contrast, the participants in the Give and Take could potentially have been uncertain about their entitlements to the overall endowment, since in these treatments the money to be distributed was “manna from heaven”.

The experiment was run at the Internet Laboratory for Experimental Economics (iLEE) in June-July 2011 with a heterogeneous subject pool that is close to being representative of the general adult population in Denmark on age, education, and gender.<sup>4</sup> Subjects were recruited in collaboration with Statistics Denmark (SD), which invited randomly selected adults aged 21-84 years from the general population in Denmark to participate by sending them a hard-copy letter. Subjects then logged into the internet platform using a code and the key to this code was only known to SD (and not to the experimenter). The data was later sent to SD and matched with register data on gender, age, and education, and payments were effected through electronic transfer.

A total of 881 subjects participated in the experiment.<sup>5</sup> Subjects were assigned to one of four treatments as they logged into the experiment, and the role as dictator or

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<sup>2</sup>A translated version of the instructions is available in the Supplementary Online Materials.

<sup>3</sup>In this respect, these treatments differ fundamentally from the Earnings treatment in List (2007), where the dictator earned twice as much as the recipient for the same job. In such a setting, people may have very different views about individual entitlements to the total earnings (Cappelen et al., 2007).

<sup>4</sup>On average, the participants are 49.3 years old (s.d. 15.2 years) and have 13.6 years of education (s.d. 2.4 years); the share of women is 48.2%. For further details, see Supplementary Online Materials.

<sup>5</sup>21 participants assigned to Work-Give and Work-Take did not complete the production task, and, therefore, did not take part in the distribution phase.

recipient as they entered the distribution phase. The experiment was double-blind with subject-subject and subject-experimenter anonymity.

### 3 Results

The distribution of transfers from the dictator to the recipient is presented in Figure 1, whereas Table 1 reports the main aggregate statistics.

[Figure 1 about here.]

[Table 1 about here.]

The two upper panels in Figure 1 provide a strikingly similar picture as reported in List (2007) and Bardsley (2008). The Give treatment replicates standard behavior in a dictator game, whereas the Take treatment shows that when the choice set is extended, there is a dramatic drop in the share of dictators transferring a positive amount to the recipient, from 73.9% to 33.9%.<sup>6</sup> This choice-set effect cannot be reconciled with standard distributional models, which predict that dictators transferring a positive share in the Give treatment would transfer the same amount in the Take treatment. The two lower panels show that exactly the same picture emerges for the Work-Give and Work-Take treatments, where 70.8% and 35.6% of the dictators, respectively, transfer a positive share to the recipient.<sup>7</sup> Thus, uncertainty about entitlements cannot explain the choice-set effect.

The heterogenous sample of participants allows us to study whether the choice-set effect depends on subject characteristics. Table 2 reports regressions of whether a person has transferred a positive share to the recipient on dummies for whether the participant was allocated to a take treatment or a work treatment, background variables, and interaction variables.<sup>8</sup> The regressions confirm that the choice-set effect is statistically significant and independent of the introduction of a production phase. Furthermore, from the regressions including subgroup interaction variables, we observe that the choice-set effect is strong and not statistically significantly different across gender, age, and education.

[Table 2 about here.]

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<sup>6</sup>List (2007) observes an even larger drop in transfers, the difference between the Baseline treatment and the “Take (\$5)” treatment is 71 percent versus 10 percent.

<sup>7</sup>Comparing Give and Work-Give, and Take and Work-Take, we observe that the distribution of transfers is not affected by the introduction of a production phase, which suggests that the dictators even in the Take and Give treatments perceived the two of them to have equal entitlements to the overall endowment.

<sup>8</sup>In the Supplementary Online Materials, we present a corresponding table where the dependent variable is the *amount* transferred by the dictator to the recipient.

## 4 Conclusion

The present study documents that the choice-set effect identified in List (2007) and Bardsley (2008) is highly robust. It is substantial also in a setting where any uncertainty about the entitlements has been removed, and it is equally strong across subgroups in a heterogenous non-student sample. This suggests that the choice-set effect captures a fundamental dimension of individual behavior in the dictator game.

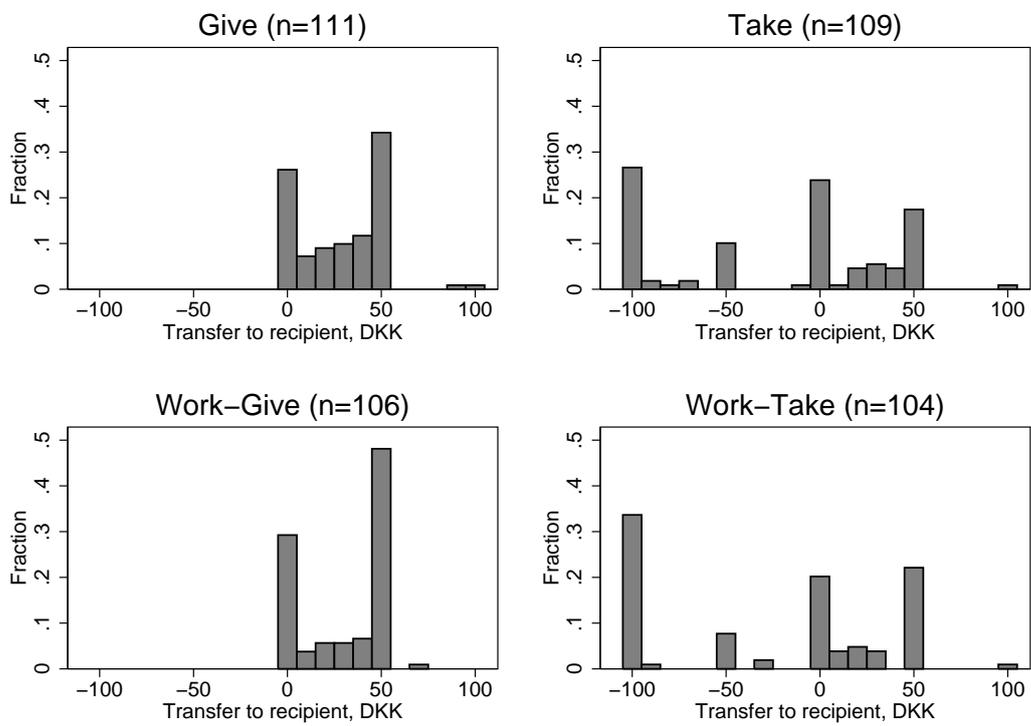
Our results are consistent with giving in the dictator game partly being motivated by a desire to signal that one is not entirely selfish (Andreoni and Bernheim, 2009) or by a desire to follow a social norm that is choice-set dependent (List, 2007; Bardsley, 2008), but more research is needed to fully understand the underlying mechanisms of the choice-set effect.

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Figure 1: Distribution of transfers



*Note:* The panels show, by treatment, the distribution of transfers from the dictator to the recipient in DKK.

Table 1: Aggregate summary statistics

Treatment	$n$	Share of positive transfers	Median transfer	Mean transfer
Give	111	0.739 (0.042)	30 (5.5)	29.0 (2.1)
Take	109	0.339 (0.046)	0 (8.4)	-21.3 (5.6)
Work-Give	106	0.708 (0.044)	40 (6.8)	30.6 (2.2)
Work-Take	104	0.356 (0.047)	0 (13.1)	-24.4 (6.0)

*Note:* Median and mean transfers are in DKK. Standard errors in parentheses. Median transfer standard errors are bootstrapped using 1,000 replications.

Table 2: Regression: Positive transfer to recipient

	(1)	(2)	(3)	(4)	(5)
Take	-0.40*** (0.06)	-0.39*** (0.06)	-0.34*** (0.08)	-0.32*** (0.08)	-0.38*** (0.08)
Work	-0.03 (0.06)	-0.02 (0.06)	-0.02 (0.06)	-0.02 (0.06)	-0.02 (0.06)
Work $\times$ Take	0.05 (0.09)	0.02 (0.09)	0.01 (0.09)	0.01 (0.09)	0.02 (0.09)
Female $\times$ Take			-0.10 (0.09)		
Age $\times$ Take				-0.13 (0.09)	
Education $\times$ Take					-0.03 (0.09)
Female		-0.11* (0.05)	-0.06 (0.06)	-0.11* (0.05)	-0.11* (0.05)
Age		0.10* (0.05)	0.11* (0.05)	0.17** (0.06)	0.10* (0.05)
Education		-0.10* (0.05)	-0.10* (0.05)	-0.10* (0.05)	-0.08 (0.06)
Constant	0.74*** (0.04)	0.78*** (0.06)	0.75*** (0.06)	0.74*** (0.06)	0.77*** (0.06)
Observations	430	415	415	415	415
$R^2$	0.143	0.171	0.173	0.175	0.171

*Note:* The table reports linear probability regressions where the dependent variable is a dummy that has value 1 if the dictator transferred a strictly positive amount to the recipient. “Take” is a dummy that has value 1 if the dictator was in treatment Take or Work-Take; “Female” is a dummy that has value 1 if the dictator is a female; “Age” is a dummy that has value 1 if the dictator is 50+ years old at 01.01.2011; “Education” is a dummy that has value 1 if the dictator has completed more than 13 years of education which is equivalent to a high school degree. In the regressions in columns (2)-(5), we have excluded 15 dictators for whom we do not have register data. Robust standard errors in parentheses (\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ).

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July 6, 2012

## Abstract

This document provides supplementary material to Cappelen, Nielsen, Sørensen, Tungodden, and Tyran (2012), including a description of our sample (Section 1), a regression analysis (Section 2), and translated instructions (Section 3). A full description of how the experiment reported here is embedded into the iLEE4 project can be found at: [http://www.econ.ku.dk/cee/iLEE/iLEE\\_descriptionLEE4.htm](http://www.econ.ku.dk/cee/iLEE/iLEE_descriptionLEE4.htm)

## 1 Sample

As referred to in footnote 4 in the main paper, Table 1 presents descriptive statistics on the socioeconomic variables used in the analysis, and a comparison to a random sample of the Danish population.

## 2 Regression results

Table 2 presents the regressions referred to in footnote 8 in the main text.

Table 1: Description and representativeness of the sample

Variable	25th percentile	Median	75th percentile	Mean
Age	40 (1.2)	50 (0.7)	61 (0.9)	49.3 (0.5)
Age (pop.)	38 (—)	50 (0.4)	63 (0.1)	50.5 (0.1)
Education	12.0 (0.0)	13.0 (0.2)	15.2 (0.2)	13.6 (0.1)
Education (pop.)	10.0 (—)	13.0 (—)	14.0 (—)	12.3 (0.1)
Female				0.48 (0.02)
Female (pop.)				0.51 (0.00)

*Note:* “Age” is measured in years at 01.01.2011 and “Education” is measured in years from 1st grade to highest level of completed or enrolled education. Standard errors of means in parentheses. The reference sample for the population statistics is a random sample of 38,581 Danes aged 21-84 provided by Statistics Denmark. The percentile standard errors are calculated using 1,000 bootstrap replications.

Table 2: Regression: Transfer from dictator to recipient

	(1)	(2)	(3)	(4)	(5)
Take	-50.3*** (6.02)	-48.6*** (6.19)	-49.5*** (8.07)	-47.0*** (7.82)	-44.8*** (6.96)
Work	1.56 (3.04)	2.55 (3.07)	2.54 (3.08)	2.59 (3.08)	2.20 (3.06)
Work × Take	-4.70 (8.80)	-8.19 (8.95)	-8.04 (9.04)	-8.23 (8.96)	-7.32** (9.09)
Female × Take			1.70 (8.85)		
Age × Take				-3.10 (8.97)	
Education × Take					-8.47 (9.16)
Female		-3.84 (4.31)	-4.65 (3.16)	-3.78 (4.30)	-3.69 (4.31)
Age		8.20 (4.42)	8.16 (4.43)	9.72** (3.12)	8.00 (4.45)
Education		-5.10 (4.51)	-5.12 (4.53)	-5.16 (4.55)	-0.93 (3.14)
Constant	29.0*** (2.13)	28.4*** (4.86)	28.9*** (4.65)	27.6*** (4.40)	26.5*** (4.48)
Observations	430	415	415	415	415
$R^2$	0.254	0.266	0.266	0.266	0.268

*Note:* The table reports OLS regressions where the dependent variable is the amount (in DKK) that the dictator transferred to the recipient. “Take” is a dummy that has value 1 if the dictator was in treatment Take or Work-Take; “Female” is a dummy that has value 1 if the dictator is a female; “Age” is a dummy that has value 1 if the dictator is 50+ years old at 01.01.2011; “Education” is a dummy that has value 1 if the dictator has completed more than 13 years of education which equivalent to a high school degree. In the regressions in columns (2)-(5), we have excluded 15 dictators for whom we do not have register data. Robust standard errors in parentheses (\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ).

### 3 Instructions (translated)

#### 3.1 Treatment Give: Dictator

[Screen 1] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, you have been provisionally allocated an additional **100 DKK**. The other participant has **not** been allocated these additional 100 DKK.

**Your decision is a simple one:** Decide what portion, if any, of these **100 DKK** to transfer to the other person. You can choose any amount from 0 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given your decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from your decision.

The other person will not make any decision, but he or she has the opportunity to read the instructions we have given to you. Similarly, you can read the instructions given to the other person by clicking the button "**The other's instructions**" in the top-right corner. [See Section 3.2]

[Screen 2] You now have to choose how much you would like to transfer to the other participant.

**How much would you like to transfer to the other participant?**

- 0 DKK
- 10 DKK
- 20 DKK
- 30 DKK
- 40 DKK
- 50 DKK
- 60 DKK
- 70 DKK
- 80 DKK
- 90 DKK

- 100 DKK

### 3.2 Treatment Give: Recipient

[Screen 1] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, the other participant has been provisionally allocated an additional **100 DKK**. You have **not** been allocated these additional 100 DKK.

The other participant has been asked to make a simple decision: Decide what portion, if any, of these **100 DKK** to transfer to you. He or she can choose any amount from 0 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given the other participant's decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from his or her decision.

You will not make any decision, but you have the opportunity to read the instructions we have given to the other participant by clicking the button "**The other's instructions**" in the top-right corner. [See Section 3.1] Similarly, the other participant can read the instructions given to you.

### 3.3 Treatment Take: Dictator

[Screen 1] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, you have been provisionally allocated an additional **100 DKK**. The other participant has **not** been allocated these additional 100 DKK.

**Your decision is a simple one:** Decide what portion, if any, of these **100 DKK** to transfer to the other person. You can also transfer a negative amount. This means that you can take up to **100 DKK** from the other participant. You can choose any amount from -100 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given your decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from your decision.

The other person will not make any decision, but he or she has the opportunity to

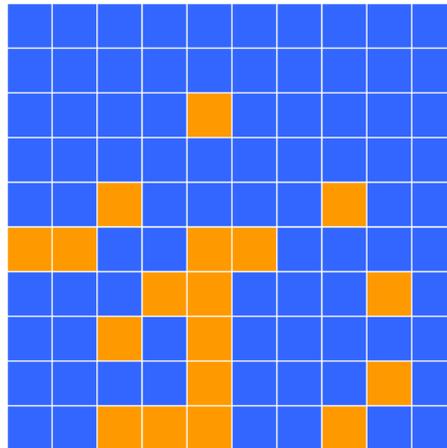
read the instructions we have given to you. Similarly, you can read the instructions given to the other person by clicking the button “**The other’s instructions**” in the top-right corner. [See Section 3.4]

[**Screen 2**] You now have to choose how much you would like to transfer to the other participant. You can also transfer a negative amount. This means that can take up to **100 DKK** from the other participant.

**How much would you like to transfer to the other participant?**

- -100 DKK
- -90 DKK
- -80 DKK
- -70 DKK
- -60 DKK
- -50 DKK
- -40 DKK
- -30 DKK
- -20 DKK
- -10 DKK
- 0 DKK
- 10 DKK
- 20 DKK
- 30 DKK
- 40 DKK
- 50 DKK
- 60 DKK
- 70 DKK
- 80 DKK
- 90 DKK
- 100 DKK

Figure 1: An example of a  $10 \times 10$  grid for the work task



### 3.4 Treatment Take: Recipient

[Screen 1] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, the other participant has been provisionally allocated an additional **100 DKK**. You have **not** been allocated these additional 100 DKK.

The other participant has been asked to make a simple decision: Decide what portion, if any, of these **100 DKK** to transfer to you. He or she can also transfer a negative amount. This means that the other participant can take up to **100 DKK** from you. He or she can choose any amount from 0 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given the other participant's decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from his or her decision.

You will not make any decision, but you have the opportunity to read the instructions we have given to the other participant by clicking the button "**The other's instructions**" in the top-right corner. [See Section 3.3] Similarly, the other participant can read the instructions given to you.

### 3.5 Treatment Work-Give: Dictator

[Screen 1] In this part of the experiment, we ask you to do a task. **The task is to count orange cells.** [See Figure 1] You earn 1 point per correct answer. **In order to pass the**

**task, you need 12 points within 5 minutes.** If you pass the task, you earn **150 DKK** and is directed to a **distribution phase**. If you fail the task, you earn **0 DKK** and is directed to the next part of the experiment.

In the distribution phase you will be paired with another participant, who has also passed the task and earned 150 DKK. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment. One of you will **randomly** be chosen to decide how your total income of **300 DKK** should be shared among you.

You can read more about the distribution phase if you pass the task.

When you press “Continue”, your 5 minutes start. You **cannot** stop the time - not even by logging out.

[Screen 2] *See Section 3.9.*

[Screen 3] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, you have been provisionally allocated an additional **100 DKK**. The other participant has **not** been allocated these additional 100 DKK.

**Your decision is a simple one:** Decide what portion, if any, of these **100 DKK** to transfer to the other person. You can choose any amount from 0 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given your decision. **The other participant’s payment** is his or her initial 100 DKK plus the amount that follows from your decision.

The other person will not make any decision, but he or she has the opportunity to read the instructions we have given to you. Similarly, you can read the instructions given to the other person by clicking the button “**The other’s instructions**” in the top-right corner. [See Section 3.6]

[Screen 4] You now have to choose, how much you would like to transfer to the other participant.

**How much would you like to transfer to the other participant?**

- 0 DKK
- 10 DKK

- 20 DKK
- 30 DKK
- 40 DKK
- 50 DKK
- 60 DKK
- 70 DKK
- 80 DKK
- 90 DKK
- 100 DKK

### 3.6 Treatment Work-Give: Recipient

[Screen 1] In this part of the experiment, we ask you to do a task. **The task is to count orange cells.** [See Figure 1] You earn 1 point per correct answer. **In order to pass the task, you need 12 points within 5 minutes.** If you pass the task, you earn **150 DKK** and is directed to a **distribution phase**. If you fail the task, you earn **0 DKK** and is directed to the next part of the experiment.

In the distribution phase you will paired with another participant, who has also passed the task and earned 150 DKK. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment. One of you will **randomly** be chosen to decide how your total income of **300 DKK** should be shared among you.

You can read more about the distribution phase if you pass the task.

When you press “Continue”, your 5 minutes start. You **cannot** stop the time - not even by logging out.

[Screen 2] *See Section 3.9.*

[Screen 3] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, the other participant has been provisionally allocated an additional **100 DKK**.

You have **not** been allocated these additional 100 DKK.

The other participant has been asked to make a simple decision: Decide what portion, if any, of these **100 DKK** to transfer to you. He or she can choose any amount from 0 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given the other participant's decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from his or her decision.

You will not make any decision, but you have the opportunity to read the instructions we have given to the other participant by clicking the button "**The other's instructions**" in the top-right corner. [See Section 3.5] Similarly, the other participant can read the instructions given to you.

### 3.7 Treatment Work-Take: Dictator

[Screen 1] In this part of the experiment, we ask you to do a task. **The task is to count orange cells.** [See Figure 1] You earn 1 point per correct answer. **In order to pass the task, you need 12 points within 5 minutes.** If you pass the task, you earn **150 DKK** and is directed to a **distribution phase**. If you fail the task, you earn **0 DKK** and is directed to the next part of the experiment.

In the distribution phase you will be paired with another participant, who has also passed the task and earned 150 DKK. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment. One of you will **randomly** be chosen to decide how your total income of **300 DKK** should be shared among you.

You can read more about the distribution phase if you pass the task.

When you press "Continue", your 5 minutes start. You **cannot** stop the time - not even by logging out.

[Screen 2] *See Section 3.9.*

[Screen 3] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, you have been provisionally allocated an additional **100 DKK**. The other participant has **not** been allocated these additional 100 DKK.

**Your decision is a simple one:** Decide what portion, if any, of these **100 DKK** to transfer to the other person. You can also transfer a negative amount. This means that you can take up to **100 DKK** from the other participant. You can choose any amount from -100 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given your decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from your decision.

The other person will not make any decision, but he or she has the opportunity to read the instructions we have given to you. Similarly, you can read the instructions given to the other person by clicking the button "**The other's instructions**" in the top-right corner. [See Section 3.8]

[**Screen 4**] You now have to choose, how much you would like to transfer to the other participant. You can also transfer a negative amount. This means that can take up to **100 DKK** from the other participant.

**How much would you like to transfer to the other participant?**

- -100 DKK
- -90 DKK
- -80 DKK
- -70 DKK
- -60 DKK
- -50 DKK
- -40 DKK
- -30 DKK
- -20 DKK
- -10 DKK
- 0 DKK
- 10 DKK
- 20 DKK
- 30 DKK
- 40 DKK

- 50 DKK
- 60 DKK
- 70 DKK
- 80 DKK
- 90 DKK
- 100 DKK

### 3.8 Treatment Work-Take: Recipient

[Screen 1] In this part of the experiment, we ask you to do a task. **The task is to count orange cells.** [See Figure 1] You earn 1 point per correct answer. **In order to pass the task, you need 12 points within 5 minutes.** If you pass the task, you earn **150 DKK** and is directed to a **distribution phase**. If you fail the task, you earn **0 DKK** and is directed to the next part of the experiment.

In the distribution phase you will paired with another participant, who has also passed the task and earned 150 DKK. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment. One of you will **randomly** be chosen to decide how your total income of **300 DKK** should be shared among you.

You can read more about the distribution phase if you pass the task.

When you press “Continue”, your 5 minutes start. You **cannot** stop the time - not even by logging out.

[Screen 2] *See Section 3.9.*

[Screen 3] You are now paired with another participant. You will not be told who you are matched with during or after the experiment, and he or she will not be told who you are either during or after the experiment.

Both of you have been allocated **100 DKK** in this part of the experiment. In addition, the other participant has been provisionally allocated an additional **100 DKK**. You have **not** been allocated these additional 100 DKK.

The other participant has been asked to make a simple decision: Decide what portion, if any, of these **100 DKK** to transfer to you. He or she can also transfer a negative amount. This means that the other participant can take up to **100 DKK** from you. He

or she can choose any amount from 0 DKK to 100 DKK that can be divided by 10 DKK. **Your payment** is your initial 100 DKK allocation plus the amount that is allocated to you given the other participant's decision. **The other participant's payment** is his or her initial 100 DKK plus the amount that follows from his or her decision.

You will not make any decision, but you have the opportunity to read the instructions we have given to the other participant by clicking the button "**The other's instructions**" in the top-right corner. [See Section 3.7] Similarly, the other participant can read the instructions given to you.

### 3.9 Work task

Figure 1 shows the  $10 \times 10$  grid in which subjects had to count orange-colored cells. A new grid appeared every time a correct answer was submitted. The grids were shown in fixed order and the numbers of orange-colored cells were (in chronological order): 15, 11, 21, 18, 9, 11, 18, 16, 15, 15, 11, 20.